

WHAT IS CLAIMED IS:

1. An extended bus structure, comprising:

a first accelerated graphics port bus;

a first extended bus for expanding the first accelerated graphics port bus; and

5 a first bridge coupled to the first accelerated graphics port bus and the first extended bus for converting mutually and compatibly signal and data between the first accelerated graphics port bus and the first extended bus.

10 2. The extended bus structure of claim 1, wherein the first bridge further comprises:

a main accelerated graphics port controller coupled to the first accelerated graphics port bus for compatibly receiving and transmitting data and signal thereof;

a first extended bus controller coupled to the first extended bus for compatibly receiving and transmitting data and signal thereof; and

15 a flow controller coupled to the main accelerated graphics port controller and the first extended bus controller for arbitrating and controlling flow direction of data and signal of the main accelerated graphics port controller and the first extended bus controller.

20 3. The extended bus structure of claim 1, further comprising:

a second accelerated graphics port bus coupled to the first bridge to expand the first accelerated graphics port bus, wherein data and signal of the first and second accelerated graphics port buses are mutually and compatibly converted by the first bridge.

4. The extended bus structure of claim 3, wherein the first bridge further comprises:

a main accelerated graphics port controller coupled to the first accelerated  
5 graphics port bus for compatibly receiving and transmitting data and signal thereof;

a first extended bus controller coupled to the first extended bus for compatibly receiving and transmitting data and signal thereof;

an extended accelerated graphics port controller coupled to the second accelerated graphics port bus for compatibly receiving and transmitting data and signal  
10 of the second accelerated graphics port bus; and

a flow controller coupled to the main accelerated graphics port controller, the extended accelerated graphics port controller, and the first extended bus controller for arbitrating and controlling flow direction of data and signal of the main accelerated graphics port controller, the extended accelerated graphics port controller, and the first  
15 extended bus controller.

5. The extended bus structure of claim 3, further comprising:

a second extended bus to expand the second accelerated graphics port bus; and  
a second bridge coupled to the second accelerated graphics port bus and the second  
20 extended bus for converting mutually and compatibly data and signal of the second accelerated graphics port bus and the second extended bus.

6. The extended bus structure of claim 3, further comprising:

a second accelerated graphics port bus coupled to the first bridge for expanding

the first accelerated graphics port bus, wherein the first bridge compatibly converts data and signal of the first accelerated graphics port bus and the second extended bus.

7. The extended bus structure of claim 6, wherein first bridge comprises:

5 a main accelerated graphics port controller coupled to the first accelerated graphics port bus for compatibly receiving and transmitting data and signal thereof;

a first extended bus controller coupled to the first extended bus for compatibly receiving and transmitting data and signal thereof;

10 a second extended bus controller coupled to the second extended bus for compatibly receiving and transmitting data and signal of the second extended bus; and

a flow controller coupled to the main accelerated graphics port controller and the first and second extended bus controllers for arbitrating and controlling flow direction of data and signal of the main accelerated graphics port controller, the first and second extended bus controllers.

15 8. The extended bus structure of claim 1, further comprising a control chip set coupled to the first accelerated graphics port bus.

9. The extended bus structure of claim 1, further comprising a peripheral coupled  
20 to the first extended bus.

10. A bridge, comprising:

a main accelerated graphics port controller coupled to the first accelerated graphics port bus for compatibly receiving and transmitting data and signal thereof;

a first extended bus controller coupled to the first extended bus for compatibly receiving and transmitting data and signal thereof; and

a flow controller coupled to the main accelerated graphics port controller and the first extended bus controller for arbitrating and controlling flow direction of data and signal of the main accelerated graphics port controller and the first extended bus controller.

11. The bridge of claim 10, further comprising:

an extended accelerated graphics port controller coupled to the second accelerated graphics port bus and the flow controller for compatibly receiving and transmitting data and signal of the second accelerated graphics port bus, wherein the flow controller arbitrates and controls flow direction of data and signal of the main accelerated graphics port controller, the first extended bus controller, and the extended accelerated graphics port controller.

12. The bridge of claim 10, further comprising:

a second extended bus controller coupled to the second extended bus and the flow controller for compatibly receiving and transmitting data and signal of the second extended bus, wherein the flow controller arbitrates and controls flow direction of data and signal of the main accelerated graphics port controller, the first extended bus controller, and the second extended bus controller.

13. A method for extending a bus to expand a first accelerated graphics port bus, comprising:

providing a first extended bus; and

compatibly and mutually converting data and signal of the first accelerated graphics port bus and the first extended bus.

5           14. The method of claim 13, further comprising:

providing a second accelerated graphics port bus; and

compatibly and mutually converting data and signal of the first accelerated graphics port bus and the second accelerated graphics port bus.

10           15. The method of claim 13, further comprising:

providing a second extended bus; and

compatibly and mutually converting data and signal of the first accelerated graphics port bus and the second extended bus.